REMARKS

Prior to this Reply, Claims 38-137 were pending. Through this Reply, Claims 128 and 132 have been amended; Claims 131 and 134 have been cancelled; and, Claim 138 has been added. Accordingly, Claims 38-130, 132, 133 and 135-138 are now at issue in the present case.

I.   Allowable Subject Matter (Office Action)

Applicants note, with appreciation, the Examiner's indication of the allowability of Claims 78-127. Such claims have not been amended and, accordingly, are still believed to be allowable.

The Examiner objected to Claims 42-44, 48, 51-54, 62-64, 72-74 and 131-134 as being dependent upon a rejected base claim. However, the Examiner indicated that such claims would be allowable if they were rewritten in independent form to include the limitations of their respective base claims and any intervening claims.

II.   Drawings Objections (Office Action)

In the Office Action, the Examiner objected to the drawings under 37 C.F.R. 1.83(a) since the circumferentially spaced spirals are not shown. The Examiner required that the circumferentially spaced spirals be shown or be cancelled from the claims.

In response, Applicants have amended the drawings to show the circumferentially spaced spirals.

The substitute specification describes the circumferentially spaced spirals as follows:

> In one example, the reference pattern includes a set of circumferentially spaced spirals. The spirals start at the OD of the disk 108 and end at the ID of the disk 108. The spirals have information written along their length that provide radial positions

for track following during SSW the servo bursts 130c on the tracks 132. (Page 15, lines 1-4).

In one case, each servo burst 130c is written a short time after the transducer 124 passes over a spiral. (Page 15, lines 11-12).

It is also possible to measure the PES on the spirals on both sides of the servo burst 130c and to interpolate a more accurate misposition of the servo burst 130c. That is, the ERC value can be calculated using an interpolated PES based on PES's measured from spirals on both sides of the servo burst 130c. (Page 16, lines 11-15).

Thus, the circumferentially spaced spirals extend from the outer diameter to the inner diameter of the disk 108 and occur before and after each servo burst 130c.

Applicants are submitting replacement Figures 1-5, 6A-1, 6A-2, 6B-1 and 6B-2 (contained on Replacement Sheets 1-8) to overcome this objection.

Figures 1-3 have not been amended, but are being submitted so that a complete set of drawings are provided.

Figure 4 has been added to show the circumferentially spaced spirals 146.

Figures 4, 5A-1, 5A-2, 5B-1 and 5B-2 have been renumbered as Figures 5, 6A-1, 6A-2, 6B-1 and 6B-2, respectively.

No new matter has been added. Figures 1-5, 6A-1, 6A-2, 6B-1 and 6B-2 constitute all of the drawings of the application.

III. **Claim Rejections – Szita et al. (Office Action)**

In the Office Action, the Examiner rejected Claims 38, 39, 41, 45-49, 55-59, 61, 65-69, 71, 75-77, 128, 129 and 135-137 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,751,046 to Szita et al. (hereinafter "Szita et al.").

Szita et al. provides rulers on a disk, then determines correction factors for the rulers, then stores the correction factors in a table, then writes final servo patterns on the disk, and then reads the final servo patterns to adapt the correction factors.

The correction factors for the rulers are determined as the head sweeps from the inner diameter to the outer diameter of the disk. Each ruler is detected using a spindle motor index signal that occurs once per disk revolution, and a correction factor is determined for each ruler. Furthermore, the correction factor is synchronously averaged by reading the ruler over multiple revolutions of the disk to minimize non-repeatable disturbances.

Claim 38 recites "generating a PES using the transducer to read the reference pattern during a revolution of the disk" then "self-writing a servo burst on the disk using the transducer during the revolution of the disk, wherein the PES indicates RRO for the servo burst" and "calculating an ERC value for the servo burst using the PES." Thus, the transducer (1) reads the reference pattern to generate the PES and then (2) writes the servo burst during the same revolution of the disk.

Szita et al. fails to teach or suggest reading a ruler to determine a correction factor and then writing a final servo burst during the same revolution of the disk. Instead, Szita et al. reads a ruler to determine its correction factor during multiple revolutions of the disk, then reads the next ruler to determine its correction factor during multiple revolutions of the disk, and so on as the head sweeps from the inner diameter to the outer diameter of the disk. Thereafter, once the correction factors for all the rulers have been obtained, the final servo patterns are written.

Claim 48 is patentably distinguishable from Szita et al. for at least the same reasons as Claim 38.

Claim 58 recites "self-writing . . . an A, B servo burst pair" and "generating a PES using the transducer to read the reference pattern <u>after</u> self-writing the A servo burst and <u>before</u> self-writing the B servo burst, wherein the PES indicates RRO for the B servo burst" and "calculating an ERC value for the B servo burst using the PES." Thus, the transducer reads the reference pattern to generate the PES (1) <u>after</u> writing the A servo burst and (2) <u>before</u> writing the B servo burst.

Szita et al. fails to teach or suggest reading a ruler to determine a correction factor <u>after</u> writing the A servo burst and <u>before</u> writing the B servo burst of an A, B servo burst pair. Instead, Szita et al. reads the rulers, determines the correction factors and then writes the final servo patterns.

Claim 68 is patentably distinguishable from Szita et al. for at least the same reasons as Claim 58.

IV. <u>Claim Rejections – Szita et al. and Codilian et al. (Office Action)</u>

In the Office Action, the Examiner rejected Claims 40, 50, 60, 70, 88-91, 95-97 and 130 under 35 U.S.C. § 103(a) as being unpatentable over Szita et al. in view of U.S. Patent No. 6,091,564 to Codilian et al. (hereinafter "Codilian et al.").

Codilian et al. discloses writing servo busts A/B in servo sectors 511, <u>then</u> writing calibration bursts A*/B* in data sectors 512 along spiral path 612, <u>then</u> reading calibration bursts A*/B* to measure and compensate for the non-linear PES response of MR head 100 to more accurately micro-jog MR head 100, and <u>then</u> recording user data over calibration bursts A*/B*. Codilian et al. says nothing about writing servo bursts A/B using calibration bursts A*/B* as a reference. Instead, Codilian et al. says the opposite:

The inventors presently contemplate recording the
calibration bursts A* and B* _after_ completely recording all of the
normal servo sectors 511 in small, accurate radial increments. (Col.
10, lines 19-22) (Emphasis added).

Claim 40 recites "the reference pattern is circumferentially spaced spirals."

Szita et al. fails to teach or suggest that the rulers are circumferentially spaced spirals,

and Codilian et al. fails to cure this deficiency. Szita et al. in view of Codilian et al. might

suggest writing the calibration bursts _after_ writing the final servo patterns but fails to suggest

forming the rulers as circumferentially spaced spirals _before_ writing the final servo patterns.

Furthermore, the rulers correct for written-in eccentricity on the disk, whereas the calibration

bursts correct for non-linear PES response of the head. Therefore, the rulers and the calibration

bursts have different purposes, different formats and different operations, and there's no apparent

reason why one would be modified in view of the other.

The Examiner asserts that "Codilian et al however, disclose a method of self-servo

writing in a disk drive wherein a reference pattern is a spiral on the disk surface which is used for

the purpose of writing servo bursts with reduced write time (see Fig. 13 and disclosure thereof

and abstract)." However, Fig. 13 and the cited passages say nothing of the kind. If the Examiner

disagrees, the Examiner is requested to point to such teaching in Codilian.

Claims 50, 60, 70, 88-91, 95-97 and 130 are patentably distinguishable from Szita et al.

in view of Codilian et al. for at least the same reasons as Claim 40.

V. Claim Rejections and Objections (Advisory Action)

In the Advisory Action, the Examiner allowed Claims 38-127 but refused to enter the

previous Reply since the amendments to Claim 128 raise new issues that would require further

consideration and/or search. The Examiner also rejected Claims 128-130 and 135-137, and objected to Claims 131-134.

Claim 128 has been amended to rewrite Claim 131 in independent form including all limitations of the base claim and any intervening claims, Claim 132 has been amended to depend from Claim 128, Claims 131 and 134 have been cancelled, and Claim 138 is Claim 134 rewritten in independent form including all limitations of the base claim and any intervening claims.

VI. Amendments to Specification

A substitute specification without claims (and a marked-up version thereof) is provided herein under 37 C.F.R. 1.125 to provide consistency with the amended drawings mentioned above. No new matter has been added.

The substitute specification provided herein replaces the previous substitute specification filed on July 27, 2005. Furthermore, since the previous substitute specification is the immediate prior version of the specification of record, the marked-up version of the substitute specification provided herein shows the changes relative to the previous substitute specification (see 37 C.F.R. 1.125(c)).

Applicants respectfully request that the substitute specification provided herein be entered and the previous substitute specification be withdrawn.

VII. Additional Claim Fees

In determining whether additional claim fees are due, reference is made to the Fee Calculation Table (below).

Fee Calculation Table

	Claims Remaining After Amendment		Highest Number Previously Paid For	Present Extra	Rate	Additional Fee
Total (37 CFR 1.16(c))	99	Minus	100	= 0	x $50 =	$0.00
Independent (37 CFR 1.16(b))	11	Minus	10	= 1	x $200=	$200.00

As set forth in the Fee Calculation Table (above), Applicants previously paid claim fees for one-hundred (100) total claims and for ten (10) independent claims. Therefore, Applicants hereby authorize the Commissioner to charge the credit card identified on the enclosed Form PTO-2038 in the amount of $200.00 for the presentation of one (1) independent claim over ten (10). Although Applicants believe that no other fees are due, the Commissioner is hereby authorized to charge Deposit Account No. 50-2198 for any fee deficiencies associated with filing this paper.
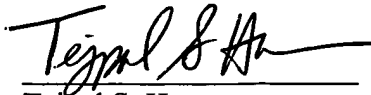
VIII. Conclusion

It is believed that the above comments establish patentability. Applicants do not necessarily accede to the assertions and statements in the Office Action, whether or not expressly addressed.

Applicants believe that the application appears to be in form for allowance. Accordingly, reconsideration and allowance thereof is respectfully requested.

The Examiner is invited to contact the undersigned at the below-listed telephone number regarding any matters relating to the present application.

Respectfully submitted,

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